

CLAIMS

WHAT IS CLAIMED IS:

1. A structural system of an automotive vehicle, the system comprising:
 - 5 a structure of an automotive vehicle, the structure defining a cavity;
 - a reinforcement member located within the cavity of the structure, the reinforcement member including:
 - i. a carrier member formed as a shell and having an inner surface and an outer surface; and
 - 10 ii. a reinforcement material disposed upon the outer surface of the carrier member; and
 - at least one locating member attached to the reinforcement member, the at least one locating member assisting in locating the reinforcement member with the cavity of the structure.
- 15 2. A reinforced structural system as in claim 1 wherein the at least one locating member is integrally formed with the carrier member.
3. A reinforced structural system as in claim 1 wherein the at least
20 one locating member is attached to the carrier member with a mechanical fastener or an adhesive.
4. A reinforced structural system as in claim 1 wherein the carrier member is formed of a molding compound.
- 25 5. A reinforced structural system as in claim 1 wherein the at least one locating member include a panel that overlays a surface of the reinforcement member.
- 30 6. A reinforced structural system as in claim 1 wherein the at least one locating member includes a spring mechanism.

7. A reinforced structural system as in claim 1 wherein the at least one locating member includes at least three locating members.

8. A reinforced structural system as in claim 1 wherein a sealant material is disposed upon the at least one locating member.

9. A reinforced structural system as in claim 1 wherein the inner surface of the carrier member defines a cavity extending into a main body of the carrier member.

10. A reinforced structural system as in claim 1 wherein the outer surface of the carrier member includes a concave side surface and a convex side surface.

11. A structural system of an automotive vehicle, the system comprising:

a structure of an automotive vehicle, the structure defining a cavity, the structure being selected from an A-pillar, a B-pillar, a C-pillar or a D-pillar of the automotive vehicle;

a reinforcement member located within the cavity of the structure, the reinforcement member including:

- i. a carrier member formed as a shell and having an inner surface and an outer surface; and
- ii. a reinforcement material disposed upon the outer surface of the carrier member; and

a plurality of locating members attached to the reinforcement member, the plurality of locating members including a first locating member and a second locating member for assisting in locating the reinforcement member with the cavity of the structure wherein:

- i. the first locating member includes a panel that overlays a top surface of the carrier member; and
- ii. the second locating member includes a spring mechanism; and

- iii. the second locating member flexes while the first locating member contacts walls of the structure for locating the reinforcement member in the cavity.

5 12. A reinforced structural system as in claim 11 wherein at least one locating member of the plurality of locating members is integrally formed with the carrier member.

10 13. A reinforced structural system as in claim 11 wherein the first locating member is attached to the carrier member with a mechanical fastener or an adhesive.

15 14. A reinforced structural system as in claim 11 wherein the carrier member is formed of a molding compound.

 15. A reinforced structural system as in claim 11 wherein the plurality of locating members includes at least three locating members.

20 16. A reinforced structural system as in claim 11 wherein a sealant material is disposed upon the first locating member

 17. A reinforced structural system as in claim 11 wherein the inner surface of the carrier member defines a cavity extending into a main body of the carrier member.

25 18. A reinforced structural system as in claim 11 wherein the outer surface of the carrier member includes a concave side surface and a convex side surface.

30 19. A reinforced structural system as in claim 11 wherein the second locating member is at least partially formed of a bent piece of sheet metal.

20. A reinforcement/baffle system of an automotive vehicle, the system comprising:

a structure of an automotive vehicle, the structure defining a cavity;

a reinforcement member located within the cavity of the structure, the

5 reinforcement member including:

i. a carrier member formed as a shell and having an inner surface and an outer surface; and

ii. a reinforcement material disposed upon the outer surface of the carrier member; and

10 a plurality of locating members attached to the reinforcement member, the plurality of locating members including a first locating member and a second locating member for assisting in locating the reinforcement member with the cavity of the structure wherein:

i. the first locating member includes a plastic panel that overlays a
15 top surface of the carrier member;

ii. a sealer material overlays the plastic panel;

iii. the second locating member includes a spring mechanism; and

iii. the second locating member flexes while the first locating member contacts at least one wall of the structure for locating
20 the reinforcement member in the cavity;

iv. upon exposure to heat, the reinforcement material and the sealant material expand and adhere to walls of the structure defining the cavity; and

v. the sealer material seals the cavity of the structure to prevent
25 passage of materials therethrough.

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